ASME OM-2009

(Revision and Consolidation of ASME OM Code-2004 and ASME OM-S/G–2007)

Operation and Maintenance of Nuclear Power Plants

AN AMERICAN NATIONAL STANDARD

The American Society of Mechanical Engineers

ASME SETTING THE STANDARD

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The 2009 edition of this document is being issued with an automatic addenda subscription service. The use of addenda allows revisions made in response to public review comments or committee actions to be published on a regular yearly basis; revisions published in addenda will become effective 6 months after the Date of Issuance of the addenda. The next edition of this document is scheduled for publication in 2012.

ASME issues written replies to inquiries concerning interpretations of technical aspects of this document. Periodically certain actions of the ASME OM Committee may be published as Code Cases. Code Cases and interpretations are published on the ASME Web site under the Committee Pages at http://cstools.asme.org as they are issued.

The American Society of Mechanical Engineers
Three Park Avenue, New York, NY 10016-5990

CONTENTS

(A Detailed Contents Precedes Each Division)

FOREWORD

This document was developed and is maintained by the ASME Committee on Operation and Maintenance (OM Committee) of Nuclear Power Plants. The Committee operates under procedures accredited by the American National Standards Institute as meeting the criteria of consensus procedures for American National Standards.

Due to the additional time required to consolidate the OM Code and OM-S/G documents, this edition encompasses all material that would have been included in the 2007 edition, 2008 addenda, and 2009 addenda.

The OM Committee develops, revises, and maintains Codes, Standards, and Guides applicable to the safe and reliable operation and maintenance of nuclear power plants.

This publication, the 2009 edition of Operation and Maintenance of Nuclear Power Plants was approved by the ASME Board on Nuclear Codes and Standards. ASME OM-2009 was approved by the American National Standards Institute on November 23, 2009.

PREPARATION OF TECHNICAL INQUIRIES TO THE COMMITTEE ON OPERATION AND MAINTENANCE OF NUCLEAR POWER PLANTS

INTRODUCTION

The ASME Committee on Operation and Maintenance of Nuclear Power Plants meets regularly to conduct standards development business. This includes consideration of written requests for interpretations, Code Cases, and revisions to Operation and Maintenance Code and development of new requirements as dictated by technological development. This supplement provides guidance to Code users for submitting technical inquiries to the Committee. Technical inquiries include requests for revisions or additions to the Code requirements, requests for Code Cases, and requests for Code interpretations.

Code Cases may be issued by the Committee when the need is urgent. Code Cases clarify the intent of existing Code requirements or provide alternative requirements. Code Cases are written as a question and a reply and are usually intended to be incorporated into the Code at a later date. Code interpretations provide the meaning of or the intent of existing requirements in the Code and are also presented as a question and reply. Both Code Cases and Code interpretations are published by the Committee.

The Code requirements, Code Cases, and Code interpretations established by the Committee are not to be considered as approving, recommending, certifying, or endorsing any proprietary or specific design or as limiting in any way the freedom of manufacturers or constructors to choose any method of design or any form of construction that conforms to the Code requirements.

Moreover, ASME does not act as a consultant on specific engineering problems or on the general application or understanding of the Code requirements. If, based on the inquiry information submitted, it is the opinion of the Committee that the inquirer should seek assistance, the inquiry will be returned with the recommendation that such assistance be obtained.

As an alternate to the requirements of this Supplement, members of the Committee and its subcommittees, subgroups, and working groups may introduce requests for Code revisions or additions, Code Cases, and Code interpretations at their respective Committee meetings or may submit such requests to the secretary of a subcommittee, subgroup, or working group.

All inquiries that do not provide the information needed for the Committee's full understanding will be returned.

INQUIRY FORMAT

Submittals to the Committee shall include:

(a) Purpose. Specify one of the following:

(1) revision of present Code requirement(s)

(2) new or additional Code requirement(s)

(3) Code Case

(4) Code interpretation

(b) Background. Provide the information needed for the Committee's understanding of the inquiry, being sure to include reference to the applicable Code subsection, appendix, edition, addenda, paragraphs, figures, and tables. Preferably, provide a copy of the specific referenced portions of the Code.

(c) Presentations. The inquirer may desire or be asked to attend a meeting of the Committee to make a formal presentation or to answer questions from the Committee members with regard to the inquiry. Attendance at a committee meeting shall be at the expense of the inquirer. The inquirer's attendance or lack of attendance at a meeting shall not be a basis for acceptance or rejection of the inquiry by the Committee.

CODE REVISIONS AND ADDITIONS

Requests for Code revisions or additions shall provide the following:

(a) Proposed Revision(s) or Addition(s). For revisions, identify the requirements of the Code that require revision and submit a copy of the appropriate requirements as they appear in the Code marked up with the proposed revision. For additions, provide the recommended wording referenced to the existing Code requirements.

(b) Statement of Need. Provide a brief explanation of the need for the revision(s) or addition(s).

(c) Background Information. Provide background information to support the revision(s) or addition(s) including any data or changes in technology that form the basis for the request that will allow the Committee to adequately evaluate the proposed revision(s) or addition(s). Sketches, tables, figures, and graphs should be submitted as appropriate. When applicable, identify any pertinent paragraph in the Code that would be affected by the revision(s) or addition(s) and paragraphs in the Code that reference the paragraphs that are to be revised or added.

CODE CASES

Requests for Code Cases shall provide a *Statement of Need* and *Background Information* similar to that defined in subparas. (b) and (c) of "Code Revisions or Additions" section. The proposed Code Case should identify the Code Section and Division and be written as a *Question* and *Reply* in the same format as existing Code Cases. Requests for Code Cases should also indicate the applicable Code edition(s) and addenda to which the proposed Code Case applies.

CODE INTERPRETATIONS

Requests for Code interpretations shall provide the following:

(a) Inquiry. Provide a condensed and precise question, omitting superfluous background information, and, when possible, composed in such a way that a "yes" or a "no" *Reply*, possibly with brief provisos, is acceptable. The question should be technically and editorially correct.

(b) Reply. Provide a proposed *Reply* that will clearly and concisely answer the *Inquiry* question. Preferably, the *Reply* should be "yes" or "no", possibly with brief provisos.

(c) Background Information. Provide any background information that will assist the Committee in understanding the proposed *Inquiry* and *Reply*.

SUBMITTALS

Submittals to and responses from the Committee shall meet the following:

(a) Submittal. Inquiries from Code users shall preferably be submitted in typewritten form; however, legible handwritten inquiries will also be considered. They shall include the name, address, telephone number, and fax number, if available, of the inquirer and be mailed to the following address:

Secretary
Committee on Operation and Maintenance of
Nuclear Power Plants
The American Society of Mechanical Engineers
Three Park Avenue
New York, NY 10016-5990

(b) Response. The Secretary of the Operation and Maintenance Committee shall acknowledge receipt of each properly prepared inquiry and shall provide a written response to the inquirer upon completion of the requested action by the Committee.

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PREFACE

GENERAL

In 2008, the OM Committee directed that the two separately published OM Code and the OM Standards and Guides (OM-S/G) publications be combined into one document. This was done to ensure all of our standards and guides documents were readily available to users of the OM Code products. Some of the standards and guides were originally developed as part of the current operating nuclear power plants pre-operational testing program conducted during the 1970s and 1980s. These Standards and Guides will be useful for power uprate projects and for new reactor design plant construction. Combining the OM Code and OM-S/G into one document will make the publication schedules for the Committee more efficient and easier to track.

ORGANIZATION

The 2009 consolidated code, standards, and guides for nuclear power plants, titled Operation and Maintenance of Nuclear Power Plants, are arranged into three distinct divisions. The titles of some of the sections have been shortened to simplify the presentation solely for the user's ease of review and use. Reference to the individual published code, standard, or guide should be made for the specific title and the application requirements. Subsequent changes made to the Division contents will be detailed in future addenda publications in separately listed summary of changes sections. Interpretations and code cases are included as a separate section following Division 3 for the user's convenience.

Division 1: Section IST — Light-Water Reactor Nuclear Power Plants

Subsection ISTA	General Requirements
Subsection ISTB	Inservice Testing of Pumps
Subsection ISTC	Inservice Testing of Valves
Subsection ISTD	Preservice and Inservice Examination and Testing of Dynamic Restraints (Snubbers)
Subsection ISTE	Risk-Informed Inservice Testing of Components

Mandatory Appendices

I Inservice Testing of Pressure Relief Devices
II Check Valve Condition Monitoring Program
III Preservice and Inservice Testing of Active Electric Motor Operated Valve Assemblies
IV Pneumatically and Hydraulically Operated Valves (in course of preparation)

Nonmandatory Appendices

A Preparation of Test Plans
B Dynamic Restraint Examination Checklist Items
C Dynamic Restraint Design and Operating Information
D Comparison of Sampling Plans for Inservice Testing of Dynamic Restraints
E Flowchart for 10% and 37 Snubber Testing Plans
F Dynamic Restraints (Snubbers) Service Life Monitoring Methods
G Application of Table ISTD-4252-1, Snubber Visual Examination
H Test Parameters and Methods
J Check Valve Testing Following Valve Reassembly
K Sample List of Component Deterministic Considerations
L Acceptance Guidelines

Division 2: Standards — Light-Water Reactor Power Plants

Subsequent changes made to the 2009 Standards Division contents will be detailed in future addenda publications in separately listed summary of changes sections.

Division 3: Guides — Light-Water Reactor Power Plants

Subsequent changes made to the 2009 Guides Division contents will be detailed in future addenda publications in separately listed summary of changes sections.

ASME OM-2009
SUMMARY OF CHANGES

Following approval by the ASME Committee on Operation and Maintenance (OM Committee) and ASME, and after public review, ASME OM-2009 was approved by the American National Standards Institute on November 23, 2009.

ASME OM-2009 is a consolidation of ASME OM Code and ASME OM-S/G. This edition includes editorial changes, revisions, and corrections introduced in ASME OM Code-2004, ASME OMa Code-2005, ASME OMb Code-2006, and ASME OM-S/G-2007, as well as the following changes identified by a margin note, **(09)**.

Page	*Location*	*Change*
6	Table ISTA-1400-1	Revised
9	ISTA-9230(f)	Revised
22	ISTC-3100(c)	Added
	ISTC-3310	Revised
23	Table ISTC-3500-1	Revised
	ISTC-3521(g)	Revised
	ISTC-3522(e)	Revised
25	ISTC-3700	Revised
26	ISTC-5120	Revised; subparas. ISTC-5121, ISTC-5122, and ISTC-5123 deleted
28	ISTC-5222	Revised
29	ISTC-9110(d)	Revised
33	ISTD-5200	Revised
34	Table ISTD-4252-1	Notes (2) and (3) revised
40–47	Subsection ISTE	Added
48	I-1200	Definitions of *ambient temperature* and *normal system operating conditions (fluid, pressure, temperature)* revised
54	I-4120	Subparagraphs (a) and (e) revised
54, 55	I-4130	Subparagraphs (a) and (e) revised
60, 61	I-8120	Subparagraphs (a) and (e) revised
61	I-8130	Subparagraphs (a) and (e) revised
66–70	Mandatory Appendix III	Added
85	Nonmandatory Appendix J	Footnote 1 revised
	Table J-2000-1	Renumbered from para. J-2000
86	Nonmandatory Appendix K	Added
87–89	Nonmandatory Appendix L	Added

Page	*Location*	*Change*
95	Part 2 (Standards)	Deleted; superseded by Part 28 of Division 2
96	Part 3 (Standards)	Title revised
	Part 3 (Standards), section 1	Revised
237	Part 25 (Standards)	Deleted; superseded by Part 28 of Division 2
243–288	Part 28 (Standards)	Added
289–291	Part 29 (Standards)	Added
390	Part 17 (Guides)	Deleted; superseded by Part 28 of Division 2

SPECIAL NOTE:

The Interpretations and Code Cases to ASME OM are included in this edition as a separate section at the end of this document for the user's convenience.

DIVISION 1: SECTION IST
RULES FOR INSERVICE TESTING OF LIGHT-WATER REACTOR POWER PLANTS

CONTENTS

DIVISION 2: STANDARDS
OPERATION AND MAINTENANCE OF NUCLEAR POWER PLANTS

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